Material Safety Data Sheets

Revision 2

1. IDENTIFICATION

Product Name	**Potassium Hydroxide Extra Pure**
Other Names	Potassium hydroxide
Code No	200-PH-2
Uses	Laboratory chemicals. Manufacture of substances
Chemical Family	No Data Available
Chemical Formula	KOH
Chemical Name	Caustic Potash
Product Description	No Data Available
Company	Arman sina.co
Contact Information	info@armansina.com www.armansina.com

2. HAZARD IDENTIFICATION

Hazard Categories	Corrosive
Risk Phrases	Harmful if swallowed. Causes severe burns.
Safety Phrases	Avoid contact with skin and eyes. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
Symbol	

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Potassium Hydroxide	KOH	1310-58-3	<=100.00 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	Rinse mouth with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Seek immediate medical attention.
Eye	Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open. Take care not to rinse contaminated water into the non-affected eye. Seek immediate medical attention.
Skin	Remove contaminated clothing. Wash affected area with plenty of Soap and water for at least 15 minutes. Seek immediate medical attention. Wash clothing before reuse.
Inhaled	Remove victim from exposure to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Do NOT use mouth to mouth method. Induce artificial respiration with the aid of a pocket mask equipped with a one way valve or other proper respiratory medical device. Seek medical attention immediately.
Advice to Doctor	Treat symptomatically based on judgement of doctor and individual reactions of patient.
Medical Conditions Aggravated by Exposure	No information available on medical conditions aggravated by exposure to this product.

5. FIRE FIGHTING MEASURES

General Measures	Clear fire area of all non-emergency personnel. Stay upwind. Keep out of low areas. Eliminate ignition sources. Move fire exposed containers from fire area if it can be done without risk.
Flammability Conditions	Product is a non-flammable solid.
Extinguishing Media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Hazardous Products of Combustion	Gives off hydrogen by reaction with metals.
Special Fire Fighting Instructions	Do NOT allow fire fighting water to reach waterways, drains or sewers. Store fire fighting water for treatment.
Personal Protective Equipment	Fire fighters should wear a positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots and gloves) or chemical splash suit.
Flash Point	No Data Available
Lower Explosion Limit	No Data Available
Upper Explosion Limit	No Data Available
Auto Ignition Temperature	No Data Available
Hazchem Code	2W

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Avoid accidents, clean up immediately. Increase ventilation. Avoid walking through spilled product as it is slippery when spilled. Isolate the danger area. Use clean, non-sparking tools and equipment. Shut off all possible sources of ignition. Avoid dust formation. Avoid breathing dust.
Clean Up Procedures	Contain and sweep/shovel up spills with dust binding material. Transfer to suitable, labelled, corrosion-resistant containers and dispose of promptly as hazardous waste.
Containment	Stop leak if safe to do so.
Environmental Precautionary Measures	Do not allow product to reach drains, sewers or waterways. If product does enter a waterway, advise the Environmental Protection Authority or your local Waste Authority.
Evacuation Criteria	Evacuate all unnecessary personnel.

7. HANDLING AND STORAGE

Handling	Ensure an eye bath and safety shower are available and ready for use. Observe good personal hygiene practices and recommended procedures. Wash thoroughly after handling. Take precautionary measures against static discharges by bonding and grounding equipment. Avoid contact with eyes, skin and clothing. Do not inhale product vapours. Avoid prolonged or repeated exposure.

	Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.
Storage	Store in a cool, dry, well-ventilated area. Keep containers tightly closed when not in use. Inspect regularly for deficiencies such as damage or leaks. Protect against physical damage. Store away from incompatible materials as listed in section 10. Absorbs carbon dioxide (CO_2) from air. Air sensitive. Strongly hygroscopic. This product has a UN classification of 1813 and a Dangerous Goods Class 8 (corrosive) according to The Australian Code for the Transport of Dangerous Goods by Road and Rail.
Container	Store in original packaging as approved by manufacturer.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	The following exposure standard has been established by The Australian Safety and Compensation Council (ASCC); Product Name: Potassium hydroxide CAS number: 1310-58-3 TWA = 2mg/m3 Peak Limitation The following exposure standard has been established by New Zealand Ministry of Business, Innovation & Employment; Substance: Potassium hydroxide CAS#: 1310-58-3 TWA = Ceiling 2mg/m3 NOTE: The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. Peak limitation is a ceiling concentration which should not be exceeded over a measurement period which should be as short as possible but not exceeding 15 minutes. These exposure standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.
Exposure Limits	No Data Available
Biological Limits	No information available on biological limit values for this product.
Engineering Measures	A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Adequate ventilation should be provided so that exposure limits are not exceeded.
Personal Protection Equipment	RESPIRATOR: Wear a P3 particulate respirator when handling this product (AS1715/1716). EYES: Full faceshield and safety glasses with side shields (AS1336/1337). HANDS: Chemical-resistant gloves. Full contact Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: 480 min. Splash contact Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: 480 min (AS2161). CLOTHING: Complete suit protecting against chemicals and safety footwear (AS3765/2210).
Work Hygienic Practices	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Appearance	Deliquescent Pieces, Lumps, Sticks, Pellets, Flakes, Briquetts having a crystalline fracture.
Odour	Odourless
Colour	Transparent through opaque shape
pH	12.0
Vapour Pressure	1 hPa @ 719 deg C - 1 hPa @ 714 deg C (@ No Data Available)
Relative Vapour Density	No Data Available
Boiling Point	1320º C
Melting Point	360ºC
Freezing Point	No Data Available
Solubility	No Data Available
Specific Gravity	No Data Available
Flash Point	No Data Available

Auto Ignition Temp	**No Data Available**
Evaporation Rate	**No Data Available**
Bulk Density	**1300 kg/m3**
Corrosion Rate	**No Data Available**
Decomposition Temperature	**No Data Available**
Density	**2.044 g/cm3 Relative**
Specific Heat	**No Data Available**
Molecular Weight	**56.11**
Net Propellant Weight	**No Data Available**
Octanol Water Coefficient	**No Data Available**
Particle Size	**No Data Available**
Partition Coefficient	**No Data Available**
Saturated Vapour Concentration	**No Data Available**
Vapour Temperature	**No Data Available**
Viscosity	**No Data Available**
Volatile Percent	**No Data Available**
VOC Volume	**No Data Available**
Additional Characteristics	**No Data Available**
Potential for Dust Explosion	**No Data Available**
Fast or Intensely Burning Characteristics	**No Data Available**
Flame Propagation or Burning Rate of Solid Materials	**No Data Available**
Non-Flammables That Could Contribute Unusual Hazards to a Fire	**No Data Available**
Properties That May Initiate or Contribute to Fire Intensity	**No Data Available**
Reactions That Release Gases or Vapours	**No Data Available**
Release of Invisible Flammable Vapours and Gases	**No Data Available**

10. STABILITY AND REACTIVITY

General Information	**Stability: Heat of solution is very high, and with limited amounts of water, violent boiling may occur.**
Chemical Stability	**Stable under recommended storage conditions.**
Conditions to Avoid	**No Data Available**
Materials to Avoid	**Nitro compounds, Organic materials, Magnesium, Copper, Water, reacts violently with:, Metals, Light metals. Contact with aluminum, tin and zinc liberates hydrogen gas. Contact with nitromethane and other similar nitro compounds causes formation of shock-sensitive salts. Vigorous reaction with:, Alkali metals, Halogens, Azides, Anhydrides**
Hazardous Decomposition Products	**No Data Available**
Hazardous Polymerisation	**No Data Available**

11. TOXICOLOGICAL INFORMATION

General Information	**Acute toxicity LD50 Oral - rat - 333 mg/kg Skin corrosion/irritation Skin - rabbit Result: Severe skin irritation - 24 h Serious eye damage/eye irritation Eyes - rabbit Result: Corrosive to eyes (OECD Test Guideline 405) Respiratory or skin sensitisation no data available**

	Germ cell mutagenicity no data available Carcinogenicity IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
EyeIrritant	Causes severe burns.
Ingestion	Harmful if swallowed. Causes severe burns. Causes vomiting, severe pain, diarrhea.
Inhalation	Causes severe burns. Causes difficulty breathing, low blood pressure, sleepiness, cyanoderma and pulmonary congestion, cough, pain. If enough is inhaled can cause lung edema after 5-72 hours.
SkinIrritant	Causes severe burns.
Carcinogen Category	No Data Available

12. ECOLOGICAL INFORMATION

Ecotoxicity	Toxicity to fish LC50 - Gambusia affinis (Mosquito fish) - 80 mg/l - 96 h
Persistence/Degradability	The methods for determining the biological degradability are not applicable to inorganic substances.
Mobility	No Data Available
Environmental Fate	Do NOT let product reach waterways, drains and sewers.
Bioaccumulation Potential	No Data Available
Environmental Impact	No Data Available

13. DISPOSAL CONSIDERATIONS

General Information	Dispose of in accordance with all local regulations. All empty packaging should be disposed of in accordance with Local Regulations or recycled/reconditioned at an approved facility.
Special Precautions for Land Fill	Contact a specialist disposal company or the local waste regulator for advice. Incinerate at an approved site following all local regulations. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

14. TRANSPORT INFORMATION

Land Transport

Proper Shipping Name	POTASSIUM HYDROXIDE, SOLID
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
ERG	154 Substances - Toxic and/or Corrosive (Non-Combustible)
UN Number	1813
Hazchem	2W
Pack Group	II
Special Provision	No Data Available

Sea Transport
IMDG

Proper Shipping Name	POTASSIUM HYDROXIDE, SOLID
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
UN Number	1813
Hazchem	2W
Pack Group	II
Special Provision	No Data Available
EMS	FA,SB
Marine Pollutant	No

Air Transport
IATA

Proper Shipping Name	POTASSIUM HYDROXIDE, SOLID
Class	8 Corrosive Substances

Subsidiary Risk(s)	No Data Available
UN Number	1813
Hazchem	2W
Pack Group	II
Special Provision	No Data Available

15. OTHER INFORMATION

Revision	**2**
Key/Legend	**< Less Than**
	> Greater Than
	atm Atmosphere
	CAS Chemical Abstracts Service (Registry Number)
	cm Square Centimetres
	CO2 Carbon Dioxide
	COD Chemical Oxygen Demand
	Degrees Celsius
	Degrees Fahrenheit
	g Grams
	g/cm Grams per Cubic Centimetre
	g/l Grams per Litre
	HSNO Hazardous Substance and New Organism
	IDLH Immediately Dangerous to Life and Health
	immiscible Liquids are insoluable in each other.
	inHg Inch of Mercury
	inH2O Inch of Water
	K Kelvin
	kg Kilogram
	kg/m Kilograms per Cubic Metre
	lb Pound
	LC50 LC stands for lethal concentration. LC50 is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours.
	LD50 LD stands for Lethal Dose. LD50 is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals.
	ltr or L Litre
	m Cubic Metre
	mbar Millibar
	mg Milligram
	mg/24H Milligrams per 24 Hours
	mg/kg Milligrams per Kilogram
	mg/m Milligrams per Cubic Metre
	Misc or Miscible Liquids form one homogeneous liquid phase regardless of the amount of either component present.
	mm Millimetre
	mmH2O Millimetres of Water
	mPa.s Millipascals per Second
	N/A Not Applicable
	NIOSH National Institute for Occupational Safety and Health
	NOHSC National Occupational Heath and Safety Commission
	OECD Organisation for Economic Co-operation and Development
	Oz Ounce
	PEL Permissible Exposure Limit
	Pa Pascal
	ppb Parts per Billion
	ppm Parts per Million
	ppm/2h Parts per Million per 2 Hours
	ppm/6h Parts per Million per 6 Hours
	psi Pounds per Square Inch
	R Rankine
	RCP Reciprocal Calculation Procedure
	STEL Short Term Exposure Limit
	TLV Threshold Limit Value
	tne Tonne
	TWA Time Weighted Average
	ug/24H Micrograms per 24 Hours
	UN United Nations
	wt Weight